Appl. No. 10/711,996
Amdt. dated October 08, 2007
Reply to Office action of August 10, 2007

REMARKS

Claim Rejections – 35 U.S.C. 103(a)

Claims 1 – 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over
Applicant Admitted Prior Art (AAPA) in view of Takamiya et al. and further in view of
5   Minami et al.

Response

Claim 1

Claim 1 is a method for processing an **interrupt request received during a control
operation or procedure**, wherein when the interrupt request corresponds to a read
10   command and data is stored in the buffer then the interrupt request will be executed in
parallel with the control operation / procedure.

Takamiya teaches a method for accessing a memory card utilizing a clock: "the CPU
loads a control program into the main memory 15 from the ROM 16 to execute the
program and issues a command to set a process of performing a clock control operation of
15   the SD memory card in the host controller 13" Para [0033]. It should be noted that the
clock control operation is only for issuing read / write commands and for synchronizing
transmission of data. The "interrupt" taught by Takamiya **does not interrupt** a control
operation of the memory card, as the clock control operation of the memory card is only
issued when read / write commands and read / write data is transmitted. Therefore,
20   receiving the clock and sending read data in response to a read command is not equivalent
to two independent operations being performed simultaneously as the two operations
cannot be performed separately. Therefore, Takamiya does not teach or suggest the
limitations of: "utilizing the optical storage drive to receive an interrupt request from a
control circuit after execution of the control procedure or operation has begun" and

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"when the indicated data is stored in the buffer, transferring the corresponding data to the control circuit from the buffer to respond to the interrupt request in parallel with the execution of the control procedure or operation".

Furthermore, the Examiner claims that Takamiya teaches the "host controller

5   supplies a clock to an SD memory card and issues a read command, which is checking whether the interrupt request is a read command". The applicant disagrees. As taught in Takamiya Para [0076], "the host controller 13 supplies a clock to the SD memory card 19 to issue a read command (step A1). After that, the host controller checks whether an interrupt has occurred or not (step A2). When the interrupt has occurred, the host

10   controller checks whether it receives a response to the read command from the SD memory card (step A3)." As can be seen from this quotation, the read command is issued first and then it is determined whether an interrupt has occurred. As step A2 happens after step A1, applicant argues that it is illogical to state that the interrupt request is checked to determine whether the interrupt request corresponds to a read command, as the interrupt

15   request is generated due to issuing of the read command. Applicant argues that the disclosed checking whether an interrupt has occurred (step A2) or checking whether a response to a read command from a SD memory card (step A3) is not the same as the claimed limitation "determining whether a received interrupt request corresponds to a read command". Therefore, the applicant asserts that Takamiya does not disclose the

20   limitations of "checking whether the interrupt request is a read command" and "when the interrupt request is a read command, checking whether data indicated by the read command is stored in a buffer".

The final OA mistakenly states: "AAPA discloses a method for handling an interrupt request in an optical storage drive ... (see [0005], Fig. 1)". The applicant knows that

25   AAPA discloses a system and a method for reading data from an optical disc (see [0005], [0006], Figs.1 and 2). The AAPA specifically teaches suspending processing of the interrupt request, regardless of whether data is stored in the buffer or not. The AAPA

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teaches determining whether the interrupt request is a read command but always teaches suspending the interrupt request while a current process is being performed. Therefore, the AAPA does not teach determining whether a received interrupt request corresponds to a read command, and, when the determination is yes, performing the claimed subsequent
5   operations. Furthermore, the AAPA does not teach transferring the corresponding data to the control circuit from the buffer to respond to the interrupt request in parallel with the execution of the control procedure or operation: "After accepting parameters of command, the interrupt request will be temporarily paused. Only when the control circuit 122 has completed the routine procedure (step 208) according to the main loop of the firmware
10   program code 130" and "Actually, not only in the seeking operation, but the interrupt request is also paused in all handling methods of the interrupt request when the optical storage drive 120 executes a control procedure or operation that needs a long time in the structure of the firmware program code 130". Para [20] Moreover, as the AAPA teaches always suspending the interrupt request even when the interrupt corresponds to a read
15   request and data is stored in the buffer, and as Takamiya does not teach determining whether an 'interrupt' corresponds to a read command or not, there is no motivation to combine the prior arts for determining whether an interrupt corresponds to a read command.

Minami only teaches performing a read request in conjunction with a seeking
20   operation and does not disclose that a read request can be performed in conjunction with any other operation, as claimed in Claim 1: "transferring the corresponding data to the control circuit from the buffer to respond to the interrupt request in parallel with the execution of the control procedure or operation". Furthermore, during the seeking operation of Minami there is no motivation for the system to check whether an interrupt
25   request corresponds to a read command as Minami states that a "seeking control can be simultaneously executed in parallel with the writing access or reading access in response to an upper command by the MPU 12" [Col. 10, lines 21 – 24]. Applicant argues that transferring data to the control circuit from a buffer is a specific operation during reading

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access in order to respond to an interrupt request. Minami cannot teach this limitation
because the focus of Minami's disclosure is to prevent a level reduction and
irreproducibility of a reproduction signal [Col. 3, lines 24-31], rather than handling
interrupt requests corresponding to read commands. Therefore, Minami is silent on

5   transferring corresponding data to a control circuit from the buffer to respond to an
interrupt request in parallel with the execution of the control procedure or operation.
Moreover, because Minami's disclosure is silent on the interrupt request claimed in the
applicant's Claim 1, the applicant asserts that the remaining claimed limitations directed
to handling the claimed interrupt request are neither taught not suggested by the teachings

10   of Minami.

In light of the above remarks, the applicant asserts that the limitations recited in Claim
1 are neither taught nor suggested by AAPA in view of Takamiya and further in view of
Minami.

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In addition, a note is made by the applicant that Takamiya's invention is directed to
controlling a clock signal supplied from a memory card host to a memory card device to
achieve power saving of the memory card host (paragraphs [0012] and [0052]). Therefore,
Takamiya's teaching is applied to the technical field of **memory cards**, whereas

20   theapplicant's invention is directed to an optical storage drive. Therefore, the cited
Takamiya reference is not in the field of the applicant's endeavor. Additionally, as stated
above, Takamiya's apparatus is for reducing power consumption. The applicant's
invention, however, is for reducing data transmission delay. Therefore, the cited
Takamiya reference is not pertinent to the particular problem with which the applicant is

25   concerned. In accordance with MPEP 2141.01(a), subsection I entitled "TO RELY ON A
REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS PRIOR ART," the
applicant believes that the cited Takamiya reference, which is relied on for the rejections,
is not qualified as prior art available under 35 U.S.C. 103(a).

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Withdrawal of the rejections made to Claim 1 is respectfully requested.

Claims 2 – 5

5   Claims 2 – 5 are dependent on Claim 1. As applicant believes Claim 1 has been placed in a position for allowance, claims 2 – 5 should also be found allowable.

Claim 6

Claim 6 is a system claim detailing similar limitations to Claim 1. As argued in the response to Claim 1, the applicant believes that Claim 1 should be allowable over the

10   cited prior arts, and therefore Claim 6 should also be found allowable.

Claim 7

Claim 7 is dependent on Claim 6 and should be found allowable if Claim 6 is found allowable.

Claim 8

15   As Claim 8 contains similar limitations to Claim 1, and as applicant believes Claim 1 has been placed in a position for allowance, Claim 8 should also be found allowable.

Claims 9 – 12

Claims 9 – 12 contain similar limitations to claims 2 – 5 respectively. Furthermore, claims 9 – 12 are dependent on Claim 8 and should be found allowable if Claim 8 is

20   found allowable.

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Claim 13

Claim 13 is a system claim detailing similar limitations to claims 1 and 6. As argued in the response to Claim 1, the applicant believes that Claim 1 should be allowable over the cited prior arts, and therefore Claim 13 should also be found allowable.

5   Claim 14

Claim 14 is dependent on Claim 13 and should be found allowable if Claim 13 is found allowable.
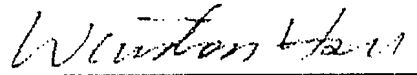
Conclusion:

10   Thus, all pending claims are submitted to be in condition for allowance with respect to the cited art for at least the reasons presented above. Reconsideration of the pending claims and withdrawal of the rejections made to the pending claims are respectfully requested. The Examiner is encouraged to telephone the undersigned if there are informalities that can be resolved in a phone conversation, or if the Examiner has any ideas or suggestions for further

15   advancing the prosecution of this case.

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Sincerely yours,

[signature: Winston Hsu]   Date: _____10.08.2007_____

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10   Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C.

is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

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